



**TENNESSEE DEPARTMENT OF ENVIRONMENT
AND CONSERVATION**

DIVISION OF WATER RESOURCES

CONTRACT SPECIFICATIONS FOR:

LABORATORY ANALYTICAL SERVICES FOR GROUNDWATER SAMPLES

SPECIFICATION INDEX FOR LABORATORY ANALYTICAL SERVICES

<u>Section No.</u>	<u>Title</u>	<u>Page</u>
100.0	Introduction	1
101.0	Delivery Time	1
102.0	Summary of Work	1
103.0	Laboratory Qualifications	1
104.0	Sample Quantities	1
105.0	Sample Kits	1
106.0	Analytical Methods	2-4
107.0	Results Reporting	4

Section 100.0 - Introduction

Tennessee Department of Environment and Conservation (TDEC), Division of Water Resources (DWR) will be submitting groundwater samples for laboratory analytical testing. Laboratory services required are described in the following sections of this specifications document.

Section 101.0 - Contract Start Time

The laboratory contractor will begin work within 10 days of receiving a signed contract.

Section 102.0 - Summary of Work

The majority of work to be performed under this contract consists of the following:

- Delivery of Sample Kits
- Perform analytical testing in accordance with Section 106.0
- Report results to project contact

Section 103.0 - Laboratory Qualifications

The laboratory performing services must be a Tennessee state-certified laboratory for the analytes outlined in Section 106.0 and have appropriate QA/QC procedures in place for each analytical method.

Section 104.0 - Sample Quantities

TDEC DWR anticipates submitting approximately 1,100 groundwater samples over a period of 1 year. Each sample submitted shall be analyzed for all analytes listed in Section 106.0 and reported as outlined in Section 107.0.

Section 105.0 - Sample Kits

TDEC DWR will request sample kits from the laboratory project contact and the sample kits shall be delivered to the State or designated representative of the State at an address requested within 7 business days. Sample kits will be packaged in coolers and will include all bottles and preservatives to collect groundwater samples for the analytes/methods listed in Section 106. Sample kits will also include at least one trip blank and temperature blank per cooler. Bottle labels, sample collection instructions, chains of custody forms, and custody seals will also be included within each cooler of the sample kit.

Section 106.0 - Analytical Methods

Laboratory analysis shall be provided for the following analytes with the method outlined:

Analyte	Method
Alkalinity, bicarbonate	2320
Alkalinity, carbonate	2320
Chloride	300.0
Fluoride	300.0
Nitrate as (N)	300.0
Nitrite as (N)	300.0
Sulfate	300.0
pH	9040C
Specific Conductance	9050A
Mercury	7470A
Arsenic	6010B
Cadmium	6010B
Chromium	6010B
Cobalt	6010B
Copper	6010B
Lead	6010B
Manganese	6010B
Molybdenum	6010B
Selenium	6010B
Silicon	6010B
Zinc	6010B
Uranium	6020
Acetone	8260B
Acrolein	8260B
Acrylonitrile	8260B
Benzene	8260B
Bromobenzene	8260B
Bromodichloromethane	8260B
Bromoform	8260B
Bromomethane	8260B
n-Butylbenzene	8260B
sec-Butylbenzene	8260B
tert-Butylbenzene	8260B
Carbon tetrachloride	8260B

Analyte	Method
Chlorobenzene	8260B
Chlorodibromomethane	8260B
Chloroethane	8260B
Chloroform	8260B
Chloromethane	8260B
2-Chlorotoluene	8260B
4-Chlorotoluene	8260B
1,2-Dibromo-3-Chloropropane	8260B
1,2-Dibromoethane	8260B
Dibromomethane	8260B
1,2-Dichlorobenzene	8260B
1,3-Dichlorobenzene	8260B
1,4-Dichlorobenzene	8260B
Dichlorodifluoromethane	8260B
1,1-Dichloroethane	8260B
1,2-Dichloroethane	8260B
1,1-Dichloroethene	8260B
cis-1,2-Dichloroethene	8260B
trans-1,2-Dichloroethene	8260B
1,2-Dichloropropane	8260B
1,1-Dichloropropene	8260B
1,3-Dichloropropane	8260B
cis-1,3-Dichloropropene	8260B
trans-1,3-Dichloropropene	8260B
2,2-Dichloropropane	8260B
Di-isopropyl ether	8260B
Ethylbenzene	8260B
Hexachloro-1,3-butadiene	8260B
Isopropylbenzene	8260B
p-Isopropyltoluene	8260B
2-Butanone (MEK)	8260B
Methylene Chloride	8260B
4-Methyl-2-pentanone (MIBK)	8260B
Methyl tert-butyl ether	8260B
Naphthalene	8260B
n-Propylbenzene	8260B
Styrene	8260B
1,1,1,2-Tetrachloroethane	8260B
1,1,2,2-Tetrachloroethane	8260B
1,1,2-Trichlorotrifluoroethane	8260B

Analyte	Method
Tetrachloroethene	8260B
Toluene	8260B
1,2,3-Trichlorobenzene	8260B
1,2,4-Trichlorobenzene	8260B
1,1,1-Trichloroethane	8260B
1,1,2-Trichloroethane	8260B
Trichloroethene	8260B
Trichlorofluoromethane	8260B
1,2,3-Trichloropropane	8260B
1,2,4-Trimethylbenzene	8260B
1,2,3-Trimethylbenzene	8260B
1,3,5-Trimethylbenzene	8260B
Vinyl chloride	8260B
Xylenes, Total	8260B

Section 107.0 - Results Reporting

Analytical results shall be reported to the State or designated representative of the State within 10 business days of sample submittal. Laboratory results reports shall be submitted in both PDF form as well as an electronic data deliverable (e.g., .csv file). Results shall include each analyte's method detection limit, laboratory reporting limit, concentrations detected, as well as any associated quality assurance/quality control qualifiers.